NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

FIELD BORDER
(Ft.)

CODE 386

DEFINITION

A strip of permanent vegetation established at the edge or around the perimeter of a field.

PURPOSE

- Reduce erosion.
- Soil and water quality protection.
- Management of harmful insect populations.
- Provide wildlife food and cover.
- Increase carbon storage in biomass and soils.
- Improve air quality.

CONDITIONS WHERE PRACTICE APPLIES

At the edges of cropland fields and to connect other buffer practices within the field. May also apply to recreation land or other land uses where agronomic crops are grown.

CRITERIA

General Criteria Applicable to All Purposes

Minimum field border widths shall be based on the purpose for which the practice is being installed. Field border width shall be a minimum of 20 feet. Widths will be increased when appropriate to provide ample turning space for larger farm equipment, compensate for field irregularities, or to facilitate row patterns.

A field border planned for a combination of shrubs and herbaceous vegetation shall have the shrub component account for at least 10 feet of the 20-foot minimum width
The field borders will be established to adapted species of permanent grass, legumes, and/or shrubs.

Field borders will be established around the field edges to the extent needed to meet the resource needs and producer objectives.

Plant material, seedbed preparation, seeding rates, dates, depths, and planting methods will be consistent with the Pasture and Hay Planting (512), Wildlife Upland Habitat Management (645), or Critical Area Planting (342) specifications, whichever is appropriate.

Ephemeral gullies and rills present in the planned border area will be smoothed as part of seedbed preparation.

Additional Criteria to Protect Soil and Water Quality

Reducing Runoff and Increasing Infiltration.

Locate borders around entire perimeter of the field, or as a minimum, install borders to eliminate sloping end rows, headlands and other areas where concentrated water flows will enter or exit the field.

Downslope perimeters of cropland fields adjacent to water bodies such as streams, wetlands, or drainage ditches shall conform to the Filter Strip standard and specification (code 393).

Maintaining Field Setback Distances for Manure and Chemical Applications.

When applying pesticides or manure on the field, chemical applications or manure spreading shall occur within the following setback (non-application) buffer distances of areas containing the field border: 30 feet for areas adjacent to property lines; 50 feet for areas adjacent to public roads; and 300 feet for areas adjacent to dwellings and public use areas.

Sediment Trapping.

Locate borders around the entire perimeter of the field, or as a minimum, in areas where runoff enters or leaves the field.

Reducing Soil Compaction from Equipment Parking and Traffic.

Border widths will be designed to accommodate equipment parking, loading and unloading equipment, grain harvest operations, etc.

Additional Criteria for Management of Harmful Insect Populations.

Provide a Harbor for Beneficial Insects.

Include herbaceous plants that attract beneficial insects. See planning considerations for including shrubs. Mowing, harvesting and pesticide applications will be scheduled to accommodate life cycle requirements of the beneficial insects.

or

Provide a Habitat to Cause Pest Insects to Congregate.

Select plants for the field border that attract pest insects.

Use mechanical, cultural, and/or chemical techniques to reduce pest populations when and where they congregate in the field border.

Additional Criteria to Provide Wildlife Food and Cover

Field border width shall be a minimum of 20 feet for shrub only borders. When nesting habitat for ground nesting birds is a primary objective, mature herbaceous only borders will be a minimum of 45 feet.

Plants that provide wildlife food and cover shall be used. **Table 1** provides a partial list

of plant species suitable for planting to meet these habitat objectives.

Mowing, harvesting, and insect and weed control activities within the field border will be scheduled to accommodate reproduction and other requirements of target wildlife species.

Natural regeneration (succession) through chemical eradication of introduced grasses such as fescue and bermudagrass shall be restricted to non-erosive areas, generally slopes of less than 5 percent.

Cropland borders of less than 2 percent slopes may be allowed to establish through natural regeneration with no other required treatment.

Cropland borders from 2 to 5 percent slopes may be allowed to establish through natural regeneration after establishment of a temporary cover (wheat, rye, sudex, etc.).

PLANNING CONSIDERATIONS

Field borders are more effective and provide more environmental benefits when planted around the entire field.

When planning a field border for wildlife, consider the quantity and quality of the adjacent plant community.

As a minimum, field borders should be installed to provide habitat connectivity between existing areas of suitable habitat to meet wildlife objectives. In large open landscapes with few woodlots, consider establishing connective shrub borders to facilitate wildlife movement.

Field borders enhance the aesthetics and provide stability around the field edge. They also provide turn and travel areas for equipment and reduce airborne dust.

To increase sediment trapping efficiency of introduced grass field borders, consider establishing a narrow strip of stiff-stemmed, upright grass at least ten (10) feet wide at the crop/field border interface.

Wider field borders provide interior habitat that tends to facilitate wildlife movement along the corridor and inhibit crossings. Narrower field borders facilitate wildlife crossing and inhibits movement along the corridor.

Field borders can be used to comply with recommended field setback distances applicable to manure and chemical applications.

Wildlife enhancement and other benefits of native plants should be discussed during planning.

Native species should be used when feasible and meet producer objectives. Introduced species that tend to be aggressive or invasive should not be considered unless the producer is informed and willing to carry out a control program designed to keep the aggressive species contained.

Consider over-seeding introduced grass borders with legumes for plant diversity and wildlife benefits.

Shrub and native warm season grass field border widths should be doubled when periodic livestock grazing is planned.

To protect ground nesting birds, mowing should be delayed until after August 15. Complete any mowing by October 1 to allow adequate regrowth for winter cover.

To protect wildlife cover, rotate mowing, disking, haying or weed control of borders by limiting these activities to no more than one-third of the borders each year.

Waterbars or berms may be needed to break up or redirect concentrated water flows within the borders. These features may also need to extend out into cropland fields along downhill slopes at the crop/border interface to control erosion, if the border vegetation becomes a water runoff barrier.

Consider plants tolerant to sediment deposition and chemicals planned for application.

Shrub field borders will often enhance ability to harbor beneficial insects, and may also provide additional wildlife benefits. To enhance wildlife, select shrub species that provide food values.

Herbaceous field borders that can provide refuge habitat for beneficial insects should contain a mixture of plant species that will provide blooming from spring through fall. Some possible plants to include in a planting mixture are:

Spring Bloomers	Yarrow, Clovers, Fleabane
Summer Bloomers	Queen Anne's Lace, Maximilian Sunflower, Coreopsis, Coneflowers
Fall Bloomers	Asters

For shrub borders, select multiple species to increase diversity and extend food availability.

If installation or maintenance of the practice has potential of affecting cultural resources (archaeological, historic, historic landscape, or traditional cultural properties), complete the cultural resource evaluation form found in Section I of the FOTG. Follow NRCS state policy for considering cultural resources.

Field borders planned for the purpose of a wildlife corridor should be as wide as possible. Refer to specific conservation program limits when necessary. Such limits [e.g., maximum width of 50 feet under the Wildlife Habitat Incentives Program (WHIP)] will be a planning requirement when working with a cost-share program.

Complete Exhibit 3 of the National Planning Procedures Handbook and any other appropriate environmental evaluation information needed to meet the requirements of the National Environmental Policy Act.

TABLE 1. Some plant species and mixtures suitable for the establishment of field borders. This table does not reflect all species or mixtures that may be suitable for field borders.

Plant Mixture	Wildlife Value
Natural Regeneration	High
Bermudagrass (Mono)	Low
Orchardgrass Timothy Kobe or Korean Lespedeza	High
Orchardgrass White Clover	Medium
Switchgrass	Medium
Big Bluestem Indiangrass Illinois Bundleflower Partridge Pea	High
Fescue White Clover	Low
Switchgrass Partridge Pea	Medium
Switchgrass Hairy Vetch	Medium
Big Bluestem Indiangrass Little Bluestem Illinois Bundleflower	High

TABLE 1 Continued

Plant Mixture	Wildlife Value
Maximilian Sunflower	High
Eastern Gamagrass Big Bluestem Indiangrass	High
Kobe or Korean Lespedeza	Medium
Big Bluestem Indiangrass Little Bluestem Sideoats Grama Switchgrass Hard Seed Forb or Legume	High
Shrubs • Crabapple • Washington Hawthorn • Silky Dogwood (Moist Bottoms) • Indigo Bush • Elderberry (Moist Bottoms) • Wild Plum • Chickasaw Plum • Shrub Lespedeza • Fragrant Sumac • Gray Dogwood	High

Additional Criteria to Improve Air Quality

Establish plant species with foliar and structural characteristics that optimize interception, adsorption, and absorption of airborne particulates.

Orient shrub rows will be oriented as closely as possible to perpendicular to the prevailing wind direction during the period of concern.

Additional Criteria to Increase Carbon Storage in Biomass and Sequestration in the Soil

Establish plant species that will produce the greatest above and below ground biomass for the site.

CONSIDERATIONS

Field borders are more effective and provide more environmental benefits when planted around the entire field.

Field borders enhance the aesthetics and provide stability around the field edge. They also provide turn and travel areas for equipment and reduce airborne dust.

To increase trapping efficiency, consider establishing a narrow strip of stiff-stemmed upright grass at the crop/field border interface.
Field borders can be used to comply with required field setback distances applicable to manure and chemical applications.

Wildlife enhancement and other benefits of native plants should be discussed during planning.

Native species should be used when feasible and meet producer objectives.

Consider overseeding the border with legumes for plant diversity and wildlife benefits.

Schedule mowing, harvesting, and weed control to accommodate wildlife nesting needs and other special requirements or purposes.

Waterbars or berms may be needed to break up or redirect concentrated water flows within the borders.

If bank stabilization is a concern, select fibrous deep-rooted plants.

Consider plants tolerant to sediment deposition and chemicals planned for application.

If installation or maintenance of the practice has potential of affecting cultural resources (archaeological, historic, historic landscape, or traditional cultural properties), follow NRCS state policy for considering cultural resources.

Consider using plant species that enhance the biomass collection opportunities.

Consider increasing the width of the field border to increase the potential for carbon sequestration.

PLANS AND SPECIFICATIONS

Plans and specifications are to be prepared for the practice site. The following items should be specified:

- Border widths and lengths based on local design criteria.
- Location within the field or farm boundary.
- Vegetation to be used.
- Site preparation.
- Planting method.
- Liming or fertilizer requirements.
- Operation and maintenance requirements.

A job sheet is available to document these items.

OPERATION AND MAINTENANCE

Field borders require careful management and maintenance for performance and longevity. The following O & M activities will be planned and applied as needed:

- Storm damage repair.
- Sediment removal - when 6 inches of sediment have accumulated at the field border/cropland interface.
- Shut off sprayers and raise tillage equipment to avoid damage to field borders.
- Shape and reseeding border areas damaged by chemicals, tillage, or equipment traffic.
- Fertilize, mow, harvest, and control noxious weeds to maintain plant vigor.
- Ephemeral gullies and rills that develop in the border will be filled and reseeded.

Maintain herbaceous vegetation so that it provides at least 80 percent ground cover throughout the year.

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